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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/058,832 | 01/30/2002 | Paul Wanninger | 32140-177788 | 2432 |

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| EXAMINER |
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FELTON, AILEEN BAKER

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| ART UNIT | PAPER NUMBER |
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3641

DATE MAILED: 02/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,832

Applicant(s)

WANNINGER ET AL.

Examiner

Aileen B Felton

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10, 12, 13, 15, 16, 18, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobson et al (3,426,684 or 3,403,625).

Both patents to Jacobson disclose an additive for reducing erosion in a gun barrel by applying the additive to the cartridge, around the propellant charge, to the textile containing the propellant or in the wall of a consumable cartridge casing. The additives disclosed are molybdenum and tungsten either in elemental form or in the form of an oxide. The additive can comprise about 3 % of the propellant charge (col. 3 and 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 11, 14, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al(3,426,684 or 3,403,625) in view of Watson-Adams(4,378,256) and Mosser et al(4,724,172).

Both patents to Jacobson disclose an additive for reducing erosion in a gun barrel by applying the additive to the cartridge, around the propellant charge, to the textile containing the propellant or in the wall of a consumable cartridge casing. The additives disclosed are molybdenum and tungsten either in elemental form or in the form of an oxide. The additive can comprise about 3 % of the propellant charge. However, Jacobson et al does not disclose the use of lanthanide metal oxides.

Watson-Adams teaches a coating that is applied to the surface of projectiles. This coating causes an aluminum surface layer to build up inside the barrel and reduces the erosion of the metal inside the gun barrel.

Mosser et al teaches an improvement over the invention of Watson-Adams by using ceramic coatings as a better way to prevent metal erosion. These materials include cerium dioxide.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of an improved coating to protect metal erosion provided by Mosser with the invention of Watson-Adams since Mosser suggests that these additives are an improvement to those taught by Watson-Adams. It would also be obvious to use the teachings of Mosser and Watson-Adams with a combustible cartridge disclosed by Jacobson to provide erosion resistance to guns that use combustible cartridges.

Response to Arguments

5. Applicant's arguments filed 11/24/2003 have been fully considered but they are not persuasive. Applicant first argues that the erosion reduction is obtained by different means than in the references. This is not persuasive since applicant's claims do not recite any features of the erosion reduction that would be different than the prior art. Also, since the coatings are the same as the prior art, there is no indication that Applicant's invention would perform any differently than that of the prior art. Also, assuming *arguendo*, that the prior art have a protective coating that is different than the instant invention, the claims are of comprising scope and would not exclude any prior art reference that also has a protective coating. Also, the claims do not exclude the erosion reducing coatings that include aluminum that are applied as teaching references. Again, since the claim scope is "comprising", any other components may be included. The teaching references of Watson-Adams and Mosser show that it is known to reduce the erosion using certain layers and also teaches the composition of these layers. One would certainly look to a teaching that suggests a greater erosion reduction for cartridges when trying to improve erosion in an existing cartridge. Applicant also appears to argue that the amounts of the additive are not the same. Jacobson shows that the amount of the additive is about 3 % by weight of the propellant and that the additive can be applied directly to the charge or to a consumable cartridge casing (see col. 3, lines 5-16). The shaped ammunition part is thus the same as the propellant charge disclosed in Jacobson and no separate casing is being used.

Conclusion

6. Applicant's amendment necessitated the application of the previous rejection to the new claims that are pending in this application. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Aileen B. Felton

Aileen B. Felton